UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,366	06/15/2005	Benno Tieke	NL 021391	4275

24737 7590 11/12/2008

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER	
PATANKAR, ANEETA V	
ART UNIT	PAPER NUMBER
2627	
MAIL DATE	DELIVERY MODE
11/12/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/539,366	TIEKE ET AL.	
	Examiner	Art Unit	
	Aneeta Patankar	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 July 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2 and 4-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 4-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 June 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/15/05,8/3/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. **Claims 1, 2, 4-7, 9 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Non-Patent Literature Recordable Compact Disc Systems, Part III: CD-RW, Volume 3: Ultra-Speed Version 1.0 to *Sony/Philips* in view of U.S. Patent No. 5,732,062 to *Yokoi et al.*

As to **claims 1 and 7**, *Sony/Philips* discloses a method or recording marks on an information layer and a recording device for recording marks on an information layer of a record carrier, the device and acts comprising of: wherein an even mark having a time length of nT is written by a sequence of n/2 pulses, where n denotes an integer value equal to 4, 6, 8, or 10 and T denotes a length of one period of a reference clock (Page II-3, section II.1.3.2, lines 3-5), where 1T is the start of the clock edge, or the reference clock, and wherein an odd mark having a time length of nT is written by sequence of (n-1)/2 pulses, where n denotes an integer value equal to 5, 7, 9 or 11(Page II-3, section II.1.3.2, lines 7-8), where integer I_5, I_7, I_9, and I_{11} represent integer values equal to 5, 7, 9 or 11, wherein a last pulse in the sequence of pulses for writing an odd mark has a period Δ1p longer than a last pulse in the sequence of pulses for writing an even mark (Page II-4, fig. II-2), where in the odd marks figure, it is shown that the last pulse is Δ1

longer than that of the even marks figure, wherein a gap preceding the last pulse in the sequence of pulses for writing an odd mark has a period Δ1g longer than a gap preceding the last pulse in the sequence of pulses for writing an even mark (Page II-4, fig. II-2), where in the odd marks figure, it's shown that the gap before the last pulse is Δ1 longer than that of the even marks figure, wherein a cooling gap succeeding the last pulse in the sequence of pulses for writing an odd mark has a period Δ2 longer than a cooling gap succeeding the last pulse in the sequence of pulses for writing an even mark (Page II-4, fig. II-2), where it is shown that in the odd marks figure that the cooling gap after the last pulse is Δ2 longer than that of the even marks figure, and wherein a sum of the periods Δ1p, Δ1g, and Δ2 is within a range from 0.7T to 1.1T (Page II-5, table II-1), where it is shown in the table that Δ1 and Δ2 have a range of lengths and when added together, they will be in the range of 0.7T to 1.1T.

Sony/Philips is deficient in disclosing irradiating an information layer with a pulsed radiation beam to record marks on said information layer, said information layer having a phase that is reversibly changeable between a crystal phase and an amorphous phase, and wherein the periods 1Δg and 1Δp have an unequal duration.

However, *Yokoi* discloses irradiating an information layer with a pulsed radiation beam to record marks on said information layer, said information layer having a phase that is reversibly changeable between a crystal phase and an amorphous phase (Fig. 32, column 34, lines 16-21), where the phase-change is from a crystal phase and an amorphous phase or vice versa, and wherein the periods 1Δg and 1Δp have an unequal duration (Fig. 32, column 35, lines 10-15), where it is shown in the figure that the Δ1 for

the gap is different than that of the Δ1 for the pulse between the odd and even mark lengths.

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to have modified the method of recording marks on an information layer with a reference clock as taught by *Sony/Philips* by including an information layer which changes phases when recorded as taught by *Yokoi.* The suggestion/motivation would have been in order to perform reproduction of the disc information by using the reproduction signal reflected from the phase-change medium (Yokoi, column 34, lines 27-31).

As to **claims 2 and 9**, *Sony/Philips* discloses the method and device, wherein the sum of the periods Δ1p and Δ1g is within a range from 0.25T to 0.75T (Page II-5, table II-1), where it is shown in the table that Δ1 has a range of lengths and when two of them are added together, they will be in the range of 0.25T to 0.75T.

As to **claims 4 and 10**, *Sony/Philips* discloses the method and device wherein a sum of the periods Δ3 and Δ4 is within a range from 0.7T to 1.1T (Page II-5, table II-1), where it is shown in the table that Δ1 has a range of lengths and when two of them are added together, they will be in the range of 0.7T to 1.1T.

Sony/Philips is deficient in disclosing a mark having a time length of 3T is written by a single pulse having a period Δ3 longer than the last pulse in the sequence of pulses for writing an even mark, and wherein a subsequent cooling gap has a period Δ4 longer than the cooling gap succeeding the last pulse in the sequence of pulses for writing an even mark.

However, *Yokoi* discloses a mark having a time length of 3T is written by a single pulse having a period $\Delta 3$ longer than the last pulse in the sequence of pulses for writing an even mark (Fig. 32, column 37, lines 33-40), where it's shown in the figure that in a length of 4T, the first pulse length is 1.5T, and the last pulse is 0.5T, which is 1/3 of 1.5T, and wherein a subsequent cooling gap has a period $\Delta 4$ longer than the cooling gap succeeding the last pulse in the sequence of pulses for writing an even mark (Fig. 38, column 45, lines 49-56), where as shown in the figure, the first cooling pulse of a 6T mark can be longer depending on the value of α than the last cooling pulse. In addition, the same motivation is used as the rejection in claim 1.

As to **claim 5**, *Sony/Philips* discloses the method, wherein a duration of the last pulse in the sequence of pulses for writing an even mark (Tp) is substantially equal to 7.2 ns (Page II-5, table II-1, page II-4, fig. II-2), where Tmp is the length of the last pulse of an even mark as shown in fig. II-2; wherein the duration of the cooling gap succeeding the last pulse in the sequence of pulses for writing an even mark (Tc) is substantially equal to 5/8T (Page II-5, table II-1), where Tc is in the range that includes 5/8T or 0.625T; the period A2 has a duration substantially equal to 3/8T (Page II-5, table II-1), where $\Delta 1$ has a range as shown in the table and 3/8T, or 0.375T, falls in that range; wherein the period A3 has a duration substantially equal to 7/8T - 7.2 ns (Page II-5, table II-1), where 7/8T or 0.875T divided by 3 is in the range of the table shown for $\Delta 1$ and Tmp is 7.2 ns; and wherein the period A4 has a duration substantially equal to 5/8T (Page II-5, table 1-11), where 5/8T or 0.625T divided by 4 is in the range of $\Delta 1$ in the table.

As to **claim 6**, *Sony/Philips* discloses the method, wherein a start of the single pulse for writing a mark having a time length of 3T relative to the start of a period of the reference clock corresponds to the start of the first pulse in the sequence of pulses for writing an even mark relative to the start of a period of the reference clock (Page II-3, section II.1.3.2, lines 3-5), where the clock edge at 1T is the reference clock and it is the start of the first pulse.

3. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Non-Patent Literature Recordable Compact Disc Systems, Part III: CD-RW, Volume 3: Ultra-Speed Version 1.0 to *Sony/Philips* in view of U.S. Patent No. 5,732,062 to *Yokoi et al.* as applied to claim 1 above, and further in view of U.S. Patent No. 6,515,949 to *Masaki et al.*

As to **claim 8**, *Sony/Philips* discloses the limitations as taught in claims 1 and 10 above as well as the pattern of pulses and gaps between the pulse in a sequence of pulses is based on a set of write parameters (Δ1p, Δ1g, Δ2, Δ3, Δ4) provided to the control unit (Page II-5, table II-1), where 1Δ or 1Δp and Δ1g are Δ1 in the table, Δ2 is shown in the table, and Δ3 and Δ4 are multiples of Δ1 and Δ2, respectively.

Sony/Philips is deficient in disclosing a recording a control unit configured to control the power of the radiation beam and to provide sequences of pulses for recording the marks; an identification unit configured to identify the record carrier, and a selection unit configured to select a set of write parameters from a collection of sets of write parameters based on an identification of the record carrier and to provide the control unit with the selected set of write parameters wherein the selection unit is further

configured to provide the control unit with a default set of write parameters when the identification unit is incapable of identifying the record carrier or the selection unit is incapable of selecting a set of write parameters from the collection of sets of write parameters based on the identification of the record carrier or if the identification unit and the selection unit is incapable of said identifying and selecting, respectively.

However, *Yokoi* discloses the limitations as taught in claims 1 and 10 above as well as a control unit configured to control the power of the radiation beam and to provide sequences of pulses for recording the marks (Fig. 7, column 14, liens 2-4), where switching devices (15-18) control the light intensity which controls the power of the radiation beam and provides the sequences of pulses.

Sony/Philips and *Yokoi* are deficient in disclosing an identification unit configured to identify the record carrier, and a selection unit configured to select a set of write parameters from a collection of sets of write parameters based on an identification of the record carrier and to provide the control unit with the selected set of write parameters wherein the selection unit is further configured to provide the control unit with a default set of write parameters when the identification unit is incapable of identifying the record carrier or the selection unit is incapable of selecting a set of write parameters from the collection of sets of write parameters based on the identification of the record carrier or if the identification unit and the selection unit is incapable of said identifying and selecting, respectively.

However, *Masaki* discloses an identification unit (182) configured to identify the record carrier (Fig. 6, column 11, lines 63-64), where control unit (182) is the

identification unit that reads the ID information, and a selection unit (160) configured to select a set of write parameters from a collection of sets of write parameters based on an identification of the record carrier and to provide the control unit with the selected set of write parameters (Fig. 6, column 12, lines 57-61), where optimum condition setting processing unit (160) sets the optimum write parameters based on ID information from control unit (182), wherein the selection unit (160) is further configured to provide the control unit (182) with a default set of write parameters when the identification unit is incapable of identifying the record carrier or the selection unit is incapable of selecting a set of write parameters from the collection of sets of write parameters based on the identification of the record carrier or if the identification unit and the selection unit is incapable of said identifying and selecting, respectively (Fig. 6, column 12, lines 56-61), where the default write parameters are used when the record carrier is unidentifiable and are selected by setting processing unit (160).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to have modified the method of recording marks on an information layer with a reference clock as taught by *Sony/Philips* and *Yokoi* by including an identification unit to read ID information off of a record carrier as taught by *Masaki.* The suggestion/motivation would have been in order to determine the optimum data power in the form of a proportional coefficient relative to the default write power (Masaki, column 12, lines 62-65).

Response to Arguments

4. Applicant's arguments filed 7/11/2008 have been fully considered but they are not persuasive.

Application first argues, with respect to claims 1, 7 and 8, that *Yokoi* fails to teach "a last pulse in the sequence of pulses for writing an odd mark has a period Δ1p longer than a last pulse in the sequence of pulses for writing an even mark, wherein a gap preceding the last pulse in the sequence of pulses for writing an odd mark has a period Δ1g longer than a gap preceding the last pulse in the sequence of pulses for writing an even mark" (Page 12, lines 12-16).

Examiner agrees that *Yokoi* fails to disclose this limitation; however, *Sony/Philips* does disclose this limitation. *Sony/Philips* discloses "a last pulse in the sequence of pulses for writing an odd mark has a period Δ1p longer than a last pulse in the sequence of pulses for writing an even mark" (Page II-4, fig. II-2 of *Sony/Phililps*), where it is shown in the figure that the last pulse of the odd mark is Δ1 longer than that of the even mark.

Applicant secondly argues, with respect to claims 1, 7, and 8, that *Sony/Philips* fails to teach "the periods 1Δg and Δ1p have unequal duration" (Page 12, lines 16-19).

Examiner agrees that *Sony/Philips* fails to disclose this limitation; however, *Yokoi* does disclose this limitation. Yokoi discloses "the periods 1Δg and Δ1p have unequal duration" (Fig. 32, column 35, lines 10-15), where it's shown in the figure that Δ1g is not equal to Δ1p for the comparison between the 4T and 5T mark.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aneeta Patankar whose telephone number is (571) 272-9773. The examiner can normally be reached on Monday-Thursday 8-5, Second Friday, 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrea L Wellington/
Supervisory Patent Examiner, Art Unit 2627

/A.P./
10/23/08